



Report and Recommendation of the President to the Board of Directors

Project Number: 48409-003
September 2018

Proposed Loan and Administration of Grant Republic of the Union of Myanmar: Climate-Friendly Agribusiness Value Chains Sector Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(As of 3 September 2018)

Currency unit	–	kyat (MK)
MK1.00	=	\$0.000661
\$1.00	=	MK1,512.50

ABBREVIATIONS

ADB	–	Asian Development Bank
ADS	–	Agricultural Development Strategy
CDZ	–	central dry zone
CSA	–	climate-smart agriculture
DOA	–	Department of Agriculture
GAFSP	–	Global Agriculture and Food Security Program
GAP	–	good agricultural practice
GMS	–	Greater Mekong Subregion
MOALI	–	Ministry of Agriculture, Livestock and Irrigation
O&M	–	operation and maintenance
PAM	–	project administration manual
PMU	–	project management unit

GLOSSARY

- agribusiness value chain – covers integrated and interdependent functions of growing, collecting and transporting, warehousing, postharvest processing, merchandizing, grading, packaging, and marketing and sales.
- climate-friendly agribusiness – means enhancing climate resilience of agribusiness value chains while reducing the carbon footprint of their operations.
- climate resilience – the capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from disruptions caused by climate variability and climate change. Also defined as the capacity for a socio-ecological system to (i) absorb stresses and maintain function in the face of external stresses imposed upon it by climate change; and (ii) adapt, reorganize, and evolve into more desirable configurations that improve the sustainability of the system, leaving it better prepared for future climate change impacts.
- climate-smart agriculture – an approach for transforming and reorienting agricultural development under climate change; may be defined as agriculture that increases productivity, enhances resilience (adaptation), reduces or removes greenhouse gas (mitigation) where possible, and ensures the achievement of food security and development goals.
- green financing – investments that provide environmental benefits (e.g., reductions in air, water and land pollution, reductions in greenhouse gas emissions, improved energy efficiency) in the broader context of sustainable development. It involves efforts to internalize environmental externalities and adjust risk perceptions to boost environmentally friendly investments and reduce environmentally harmful ones. It includes effective management of environmental risks across the financial system.

NOTE

In this report, “\$” refers to United States dollars.

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PROJECT AT A GLANCE

1. Basic Data		Project Number: 48409-003	
Project Name	Climate-Friendly Agribusiness Value Chains Sector Project	Department /Division	SERD/SEER
Country	MYA	Executing Agency	Ministry of Agriculture, Livestock and Irrigation
Borrower	Government of Myanmar		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Agriculture, natural resources and rural development	Agricultural policy, institutional and capacity development		3.26
	Agricultural production		11.11
	Agro-industry, marketing, and trade		4.01
	Irrigation		14.64
	Land-based natural resources management		7.48
	Total		40.50
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Medium
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	ADB Financing	
Regional integration (RCI)	Natural resources conservation	Adaptation (\$ million)	7.28
	Pillar 4: Other regional public goods	Cofinancing	
		Adaptation (\$ million)	3.37
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	Effective gender mainstreaming (EGM)	✓
Knowledge solutions (KNS)	Knowledge sharing activities		
Partnerships (PAR)	International finance institutions (IFI)		
Private sector development (PSD)	Official cofinancing		
	Conducive policy and institutional environment		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	No	Rural	High
Household Targeting	No	Urban	Medium
SDG Targeting	Yes		
SDG Goals	SDG2, SDG5, SDG8, SDG9, SDG13		
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: B Indigenous Peoples: B		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		40.50	
Sovereign Project (Concessional Loan): Ordinary capital resources		40.50	
Cofinancing		22.00	
Global Agriculture and Food Security Program - Sector grant (Full ADB Administration)		22.00	
Counterpart		2.42	
Beneficiaries		0.99	
Government		1.43	
Total		64.92	

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Republic of the Union of Myanmar for the Climate-Friendly Agribusiness Value Chains Sector Project. The report also describes the proposed administration of a grant to be provided by the Global Agriculture and Food Security Program (GAFSP) for the project and if the Board approves the proposed loan, I, acting under the authority delegated to me by the Board, approve the administration of the grant.¹

2. The proposed project supports fulfilling the government's Agriculture Development Strategy (ADS), 2018–2023 and the National Export Strategy, 2015–2019 by boosting competitiveness in value chains for rice, beans, pulses, and oilseeds in the Magway, Mandalay, and Sagaing regions in the central dry zone (CDZ).² The project will increase climate resilience for critical rural infrastructure, promote quality and safety testing capacity, strengthen technical and institutional capacity for climate-smart agriculture (CSA), and create an enabling policy environment for climate-friendly agribusinesses. The project will reduce food insecurity and rural poverty, increase incomes and access to markets for smallholders and poor landless households, and improve resource efficiency and environmental sustainability for agribusinesses.

II. THE PROJECT

A. Rationale

3. **Sector performance.** The Human Development Index report ranks Myanmar as 145th out of 188 countries.³ Myanmar's gross domestic product grew at 6.8% in 2017 and is projected to grow at 6.8% in 2018 and 7.2% in 2019.⁴ However, 32.1% of the population remains poor,⁵ and the poverty incidence in the CDZ is high (43%).⁶ The CDZ has 15.4 million inhabitants, most of whom (76%) live in rural areas; 58% of CDZ households depend on crops for their livelihoods. Tackling rural poverty is critical to ensure sustainable development in the CDZ. In 2016 agriculture accounted for 30% of gross domestic product, 60% of employment, 29% of value addition, and 23% of exports (including \$1.1 billion in pulses alone).⁷ Crop production accounts for 72% of farm output. As a percentage of national production, the CDZ produces 25% of rice, 48% of pulses, and 89% of sesame. The potential for developing the value chains of these crops is significant.

4. **Development challenges.** Despite good resource endowments, agricultural production and productivity remain low, primarily due to (i) poor infrastructure, (ii) low-quality inputs, (iii) weak institutional capacity, (iv) limited access to finance, and (v) high vulnerability to climate risks.⁸ A farmer in Myanmar earns only about \$1.80–\$2.50 per day compared to \$10–\$16.50 in Thailand and \$7.80 in the Philippines (footnote 5). Most farms are small, subsistence-level holdings with low productivity (average paddy yields in Myanmar are 2.7 tons per hectare versus a potential yield of 6.8 tons per hectare). Low usage and quality of certified seed and agro-chemicals, limited

¹ GAFSP was established by the International Bank for Reconstruction and Development as trustee.

² Government of Myanmar, Ministry of Agriculture, Livestock and Irrigation. 2018. *Myanmar Agriculture Development Strategy and Investment Plan (2018–2023)*. Nay Pyi Taw; and Government of Myanmar, Ministry of Commerce. 2014. *National Export Strategy (2015–2019)*. Nay Pyi Taw.

³ United Nations Development Programme. 2017. *United Nations Human Development Report 2017*. New York.

⁴ Asian Development Bank. 2018. *Asian Development Outlook 2018: How Technology Affects Jobs*. Manila.

⁵ World Bank. 2017. *An Analysis of Poverty in Myanmar (English)*. Washington, DC.

⁶ Japan International Cooperation Agency. 2010. *The Development Study on Sustainable Agricultural and Rural Development for Poverty Reduction Programme in the Central Dry Zone of the Union of Myanmar*. Tokyo.

⁷ The European Chamber of Commerce in Myanmar. 2017. *Myanmar: Agriculture Guide 2018*. Yangon.

⁸ The average farm size in Myanmar (3 hectares) is more than in other Asian countries. Four river systems supply more than 19,000 cubic meters per capita of water each year, against an average 4,000 cubic meters across Asia.

irrigation, and poor quality and safety of farm products also contribute to low sector performance. Less than 5% of rice farmers in the CDZ use certified seed, while pulse and oilseed farmers use almost none. Private seed providers have been unable to produce enough to meet demand because of the poor business environment. Only 15% of crop area is irrigated, and more than 50% of the rural population lacks access to all-season roads, hindering farm-to-market connectivity. Credit (which is often unavailable) is of short tenure, and given only to land owners. Increased migration to urban areas and neighboring countries is worsening labor shortages. Farm mechanization is limited. Inefficient post-harvest operations such as drying are leading to reduced quality, and poor returns to farmers and processors. Most exported crops are unprocessed and sold to lower-value markets. Private sector investment in agribusiness is limited because of the poor enabling policy environment related to land use and administration.⁹ In *Doing Business 2018*, the World Bank ranks Myanmar 171st out of 190 economies.¹⁰ During 1998–2017, only 23 agricultural enterprises attracted foreign direct investment, amounting to \$380 million or 0.51% of total foreign direct investment (footnote 5).

5. Myanmar has one of the highest rankings in the 2017 global climate risk index.¹¹ While total precipitation has changed little from 1990, the rainy season has shortened due to late onset and early withdrawal of the southwest monsoon, causing intense rainfall and flooding. Increasing temperatures, shallow soils, a long dry season, the increasing frequency of severe droughts, and poor crop husbandry are adding substantial risk to agriculture. Climate change projections to 2050 suggest Myanmar will experience longer dry spells and periods of heavy rains.¹²

6. **Opportunities.** Policy reforms undertaken since 2011 have enhanced the potential for growth in the agricultural sector.¹³ Investing in infrastructure, capacity and the enabling policy environment can unlock agribusiness's potential. Improved access to certified seeds, water, and land and finance, and the use of quality agro-chemicals and climate- resilient varieties can lift crop productivity to regional norms and address climate change. Investments in resilient farm roads can increase market connectivity, while quality and safety testing of infrastructure can boost export potential. The potential for exports can be enhanced by strengthening the capacity of smallholders in good agricultural practices (GAPs) and CSA, and of agribusinesses in good manufacturing practices and safety standards. Support for formulating climate- and investor-friendly agribusiness policies, coupled with enhanced land administration and credit services at the township level, can spur faster, better, and stronger agribusiness growth.

7. **Government's strategies.** The Ministry of Agriculture, Livestock and Irrigation (MOALI) has developed the ADS, 2018–2023 (footnote 2), the agriculture sector second five-year plan, a rice sector development strategy, and a CSA strategy.¹⁴ The ADS aims to improve food security and agricultural competitiveness. The five-year sector plan aims to improve irrigation, crop production, agro-industry, markets, and research. The CSA strategy aims to achieve food and nutrition security and climate resiliency, with a globally competitive agriculture sector by 2030.

8. **Asian Development Bank's (ADB) value addition.** The project includes innovations such as (i) improved design standards of rural infrastructure to make it climate-resilient and more sustainable, (ii) expanded use of advanced CSA technologies and practices, and (iii) promotion

⁹ Global Agriculture and Food Security Program. 2016. *Agribusiness Country Diagnostic–Myanmar*. Washington, DC.

¹⁰ World Bank. 2017. *Doing Business 2018*. Washington, DC.

¹¹ Germanwatch. 2017. *Global Climate Risk Index*. Bonn.

¹² R. Horton et al. 2017. *Assessing Climate Risk in Myanmar: Summary for Policymakers and Planners*. New York.

¹³ ADB. 2015. *Myanmar's Agriculture Sector: Unlocking the Potential for Inclusive Growth*. Manila.

¹⁴ Government of Myanmar, MOALI. 2016. *Agriculture Sector Second Five-Year Plan (2016/2017–2020/2021)*. Nay Pyi Taw; Government of Myanmar, Ministry of Agriculture and Irrigation. 2013. *Myanmar Rice Sector Development Strategy*. Nay Pyi Taw; and Government of Myanmar, MOALI. 2016. *Climate-Smart Agriculture Strategy*. Nay Pyi Taw.

of regional cooperation and integration in the Greater Mekong Subregion (GMS) through (a) harmonization of policies and regulatory frameworks, (b) adoption of common export quality and safety standards leading to increased trade within and beyond GMS, (c) facilitation of regional seed-trading agreements, and (d) exchange of best practices to address climate change. The project will support three pillars of the ADS (productivity, competitiveness, and governance) by enhancing the climate resilience of critical infrastructure, promoting CSA, formulating inclusive agribusiness policies, and helping the private sector to achieve efficiency and value addition. The project will deploy climate-resilient varieties, enhance capacity, diversify livelihood options, and foster public–private partnerships by linking smallholder farmers and the private sector. By targeting rice, bean, pulse, and oilseed value chains in up to 14 townships in the CDZ, the project will focus on a region in Myanmar with some of the highest food insecurity, natural resource-poor, water-stressed, and climate-vulnerable regions in Myanmar.¹⁵ With support from GAFSP grant, the project will target poor landless households or those farming less than 2 hectares to drive an inclusive structural transformation of agriculture that empowers the rural poor, and particularly women, through improved access to water, land, finance, and the skills needed to engage in productive livelihood activities.¹⁶

9. Development coordination and lessons. The support of development partners focuses on four key areas: (i) infrastructure, (ii) production enhancement, (iii) capacity development, and (iv) policies and governance.¹⁷ The project will contribute to all four areas. It will collaborate with the Japan International Cooperation Agency and the World Bank on irrigation, the Livelihoods and Food Security Trust Fund on commercialization and financial inclusion, and the Food and Agricultural Organization of the United Nations on CSA. The project design incorporates lessons from projects funded by ADB and other development partners, and complements initiatives such as the GMS Core Agriculture Support Program, and agricultural value chain support by the Irrigated Agriculture Inclusive Development Project.¹⁸ Lessons call for (i) building infrastructure that supports agricultural value addition; (ii) enhancing smallholders' access to credit; (iii) strengthening land management and administration services; (iv) improving seed value chains, product quality and safety standards; (iii) creating a policy environment for mobilizing private investments; and (iv) building capacity at every stage of value chains to meet demand in high-end domestic and international markets.

10. Strategic fit. The project is aligned with the ADS, National Export Strategy (footnote 2), and CSA strategy (footnote 14). The project directly supports three of seven operational priorities of ADB Strategy 2030, including promoting rural development and food security; tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability; and

¹⁵ Townships, selected through a participatory, pro-poor, gender-inclusive approach against specific criteria, include Pakokku, Magway, Aungmye, Natogyi, and Pwintbyu in Magway region; Mahlaing, Pyawbwe, Natogyi, Sintgaing in Mandalay region; and Monywa, Shwebo, Sagaing, Yin Mar Bin, and Sarlangyi in Sagaing region.

¹⁶ The project, in cooperation with Food and Agricultural Organization of the United Nations (FAO), will invest in five components outlined in the GAFSP framework document: (i) raising agricultural productivity; (ii) linking farmers to market; (iii) reducing risk and vulnerability; (iv) improving non-farm rural livelihoods; and (v) technical assistance, institution building, and capacity development. All the components' activities are covered under three outputs of the ADB investment and FAO technical assistance.

¹⁷ Development Coordination (accessible from the list of linked documents in Appendix 2).

¹⁸ ADB. 2017. *Strategy for Promoting Safe and Environment Friendly Agro-Based Value Chains in the Greater Mekong Subregion and Siem Reap Action Plan, 2018–2022*. Bangkok; ADB. 2013. *Grant Assistance Report: Proposed Grant Assistance to Republic of the Union of Myanmar: Enhancing Rural Livelihoods and Incomes Project*. Manila; ADB. 2016. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Technical Assistance Grant to Republic of the Union of Myanmar for the Irrigated Agriculture Inclusive Development Project*. Manila; Japan International Cooperation Agency. 2016. *Preparatory Survey for Intensive Agriculture Promotion Program in Myanmar*. Nay Pyi Taw; and Livelihoods and Food Security Trust Fund. 2014. *Myanmar Dry Zone Development Programme – Scoping Report*. Yangon.

fostering regional cooperation and integration; and is aligned with the GMS Regional Investment Framework 2022; ADB's country partnership strategy, 2017–2021 for Myanmar, and was included in the country operations business plan, 2017–2019 for Myanmar.¹⁹ The project is consistent with ADB's Operational Plan for Agriculture and Natural Resources, which aims to increase agricultural value addition and promote partnerships with the private sector.²⁰

B. Impact and Outcome

11. The project aims to create an enabling environment that reduces the incidence of poverty, malnutrition, and food insecurity among the rural poor. The project is aligned with the following impact: agricultural competitiveness improved.²¹ The project will have the following outcome: productive and resource-efficient agribusiness value chains in project areas developed.²²

C. Outputs

12. **Output 1: Critical agribusiness value chain infrastructure improved and made climate-resilient.** This output involves improving infrastructure to increase crop productivity and diversification, and boost agricultural product quality and safety. Key activities include (i) upgrading infrastructure (irrigation, farm roads, buildings, farm machinery, post-harvest equipment, seed testing equipment, and agrometeorological stations) in 10 Department of Agriculture (DOA) seed farms for producing improved climate-resilient seed of rice, beans, pulses, and oilseeds; (ii) rehabilitating tertiary canals and community reservoirs, and constructing shallow tube wells (with some linked to drip and sprinkler technologies) to bring an additional 13,000 hectares under irrigation to benefit up to 35,000 households; (iii) rehabilitating farm roads to climate-resilient condition for improved connectivity to markets and for farm mechanization; and (iv) upgrading the safety and quality testing equipment and instrumentation in MOALI Plant Protection Division's Pesticide Testing Laboratory and Food Safety Testing Laboratory, and the Ministry of Commerce Commodity Testing and Quality Management Laboratory to meet ISO 17025 standards, and providing rapid food safety testing kits to DOA and the private sector.

13. The project includes adaptation measures for designing infrastructure to withstand climate change. It will enable DOA seed farms to link with the private sector, and marketing and business development services. Further, the project will encourage lead seed growers and seed producer associations to integrate under a public–private partnership for seed multiplication being launched by the Livelihoods and Food Security Trust Fund to ensure a guaranteed market for lead seed growers. The project will also support forming and training water user groups to operate and maintain tertiary canals, community reservoirs, and other water management infrastructure. An integrated approach to operation and maintenance (O&M) focusing on institutions, capacity building, financing, and technology will sustain infrastructure.

14. **Output 2: Climate-smart agriculture and agribusiness promoted.** This output will enhance capacity to integrate climate change concerns into agriculture and train farmers and agribusinesses in post-harvest crop handling to improve quality and market access, value addition, and contract harvesting. Key activities include (i) deploying climate-resilient varieties of

¹⁹ ADB. 2017. *Greater Mekong Subregion Economic Cooperation Program: Regional Investment Framework 2022*. Manila; ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila; ADB. 2017. *Country Partnership Strategy: Myanmar, 2017–2021*. Manila; and ADB. 2016. *Country Operations Business Plan: Myanmar, 2017–2019*. Manila.

²⁰ ADB. 2015. *Operational Plan for Agriculture and Natural Resources: Promoting Sustainable Food Security in Asia and the Pacific in 2015–2020*. Manila.

²¹ The impact is reflected through enhanced productivity, climate resilience, quality and safety, value addition and rural household incomes.

²² The design and monitoring framework is detailed in Appendix 1.

rice, beans, pulses, and oilseeds; (ii) strengthening capacity of seed growers, agro-dealers, and government staff regarding GAPs, CSA, certified seed production, and farm mechanization, and of agribusinesses regarding business plan development, good manufacturing practices, value addition, and improvement of food quality and safety; and (iii) facilitating access to inputs (seeds, quality agrochemicals), farm mechanization services, and off-farm rural livelihood opportunities by establishing an agricultural digital finance service to benefit at least 35,000 smallholders.²³

15. The project will identify beneficiaries of digital finance service (i.e., debit card) through a community-driven development process established under the Enhancing Rural Livelihoods and Incomes Project (footnote 18). Farmers will have access to up to \$300 in loans annually (secured against \$100 from the project held in a compensating balance account by a competitively selected financial service provider) to buy improved seed, agrochemicals, and mechanization services. Beneficiaries must participate in training on GAPs and financial literacy to access this credit.

16. **Output 3: Enabling environment for climate-friendly agribusiness enhanced.** The project will support MOALI and the Ministry of Commerce in crafting policies to promote private sector investments and expand access to high-end markets such as Japan. Key activities include (i) establishing an agribusiness policy cell within MOALI's Department of Planning for research and advocacy on policies related to land management, contract farming, tenure security, public-private partnerships, and on harmonization of quality and safety standards; (ii) raising awareness and capacity of financial institutions to support climate-friendly agribusinesses; (iii) enhancing weather, market, and credit information networks; and (iv) improving delivery of land administration services in townships by building capacity in participatory land management.

D. Summary Cost Estimates and Financing Plan

17. The project is estimated to cost \$64.92 million (Table 1). Detailed cost estimates by expenditure category and by financier are included in the project administration manual (PAM).

Table 1: Summary Cost Estimates
(\$ million)

Item	Amount ^a
A. Base Cost,^b	
1. Critical agribusiness value chain infrastructure improved and made climate resistant	29.12
2. Climate-smart agriculture and agribusiness promoted	10.23
3. Enabling environment for climate-friendly agribusiness enhanced	3.45
Project management	8.45
Subtotal (A)	51.25
B. Contingencies^c	12.31
C. Financing Charges During Implementation^d	1.36
Total (A+B+C)	64.92

^a Includes taxes and duties of \$2.56 million to be financed by the Asian Development Bank (ADB) and the Global Agriculture and Food Security Program. Such amount does not represent an excessive share of the project cost.

^b In 1st quarter 2018 prices.

^c Physical contingencies computed at 10% for civil works and equipment, and 5% for the other expenditure categories. Price contingencies on foreign currency costs computed at 1.5% from 2018 to 2020, and 1.6% thereafter. Price contingencies on local currency costs computed at 7.5% from 2018 to 2020, and 8.0% thereafter. Includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Interest during construction for ADB loan is computed at 1% per year.

Source: Asian Development Bank estimates.

18. The government has requested a concessional loan of \$40.5 million from ADB's ordinary capital resources to help finance the project. The loan will have a 32-year term, including a grace

²³ Details in the Project Administration Manual (accessible from the list of linked documents in Appendix 2).

period of 8 years; an interest rate of 1.0% per year during the grace period and 1.5% per year thereafter; and such other terms and conditions set forth in the draft loan agreement. Sector lending modality is appropriate for this project as the government has a robust sector development plan (footnote 2) and has demonstrated adequate capacity to implement the plan. Overall sector policies are adequate but need improvement to enable the growth of agribusinesses. The modality also enables the government to identify and finance additional subprojects while undertaking needed policy reforms associated with sector development plan implementation.²⁴

19. The summary financing plan is in Table 2. ADB will finance expenditures in relation to works, equipment, consulting services, incremental operating costs, and taxes and duties. The GAFSP will provide a grant cofinancing of \$22 million on a cost-sharing basis, to be administered by ADB. The government will finance the equivalent of \$1.43 million for salaries of counterpart staff and office space. The beneficiaries will finance the equivalent of \$0.99 million as a contribution to installation of tube wells. In support of the project, GAFSP will provide parallel collaborative cofinancing of \$5 million on a grant basis, to be administered by Food and Agricultural Organization of the United Nations.²⁵ Climate adaptation is estimated to cost \$10.65 million. ADB will finance 68% of adaptation costs, and GAFSP will finance the remainder.

Table 2: Summary Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (loan)	40.50	62.4
Global Agriculture and Food Security Program (grant) ^a	22.00	33.9
Beneficiaries ^b	0.99	1.5
Government	1.43	2.2
Total	64.92	100.0

^a Administered by the Asian Development Bank.

^b A transparent and equitable copayment mechanism will be developed during project implementation.

Source: Asian Development Bank estimates.

E. Implementation Arrangements

20. The implementation arrangements are summarized in Table 3 and described in detail in the PAM (footnote 23).

Table 3: Implementation Arrangements

Aspects	Arrangements
Implementation period	January 2019–December 2025
Estimated completion date	31 December 2025 (estimated closing date for loan and grant: 30 June 2026)
Management	
(i) Oversight body	Project Steering Committee Minister or Deputy Minister of MOALI (chair) Ministers of Agriculture of Magway, Mandalay, and Sagaing regions (co-chairs) Director General (or higher) of DALMS, DAR, DOA, DOP, DRD, and IWUMD from MOALI; and representatives of MOC, MOI, MONREC, and MOPF (members)
(ii) Executing agency	MOALI
(iii) Key implementing agencies	DALMS, DOA, DOP, DRD, and IWUMD in MOALI and MTPO in MOC
(iv) Implementation unit	National level (Nay Pyi Taw) PMU: 14 staff MOALI: project director, project manager; finance, procurement, safeguards, M&E, and administration officers; project coordinators from DALMS, DOA, DOP, DRD, and IWUMD; and MOC (director,

²⁴ ADB. 2003. Sector Lending. *Operations Manual*. OM Section D3/BP. Manila.

²⁵ The GAFSP-funded FAO technical assistance will complement project activities by strengthening capacity of (i) smallholders for seed multiplication, farm mechanization, off-farm skill development and entrepreneurship, nutrition planning and the promotion of nutrition behavioral change; and (ii) MOALI staff in monitoring and evaluation.

Aspects	Arrangements		
	coordinator). Regional level: 9 staff (3 each in Magway, Mandalay, and Sagaing regions) Township level: 4 staff in each township		
Procurement	ICB (Goods)	3 contracts	\$2,360,000
	NCB (Goods)	7 contracts	\$2,630,000
	NCB (Works)	17 contracts	\$31,320,000
	Shopping (Goods)	4 contracts	\$130,000
Consulting services (including travel, taxes and duties)	SSS	1 contract	\$1,970,000
	QCBS	3 contracts	\$6,950,000
	CQS	4 contracts	\$800,000
	ICS	5 contracts	\$680,000
Advance contracting	Recruitment of project implementation consulting firm and individual consultants.		
Disbursement	The loan and grant proceeds will be disbursed following ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time), and detailed arrangements agreed between the government and ADB.		

ADB = Asian Development Bank; CQS = consultants' qualification selection; DALMS = Department of Agricultural Land Management and Statistics; DAR = Department of Agricultural Research; DOA = Department of Agriculture; DOP = Department of Planning; DRD = Department of Rural Development; ICB = international competitive bidding; ICS = individual consultant selection; IWUMD = Irrigation and Water Utilization Management Department; M&E = monitoring and evaluation; MOALI = Ministry of Agriculture, Livestock and Irrigation; MOC = Ministry of Commerce; MOI = Ministry of Industry; MONREC = Ministry of Natural Resources and Environmental Conservation; MOPF = Ministry of Planning and Finance; MTPO = Myanmar Trade Promotion Organization; NCB = national competitive bidding; PMU = project management unit; QCBS = quality- and cost- based selection; SSS = single source selection.
Source: Asian Development Bank.

III. DUE DILIGENCE

A. Technical

21. Project preparation considered (i) the economic viability of technical options and compatibility with local conditions, (ii) ways to diversify crops and increase productivity, (iii) ways to strengthen value chain linkages, and (iv) measures to minimize adverse impacts. The project design includes measures to enhance resilience, including changes in infrastructure siting (e.g., sediment traps to avoid excessive sedimentation, increasing the width and depth of irrigation canals for added storage, increasing embankment heights of farm roads, providing cross drainage, and reducing soil erosion through measures such as restoration of the vegetation in the immediate landscape). The project team conducted technical due diligence for three subprojects: (i) Chepa seed farm, (ii) minor canal rehabilitation, and (iii) shallow tubewell-based supplementary irrigation. All representative subprojects were evaluated against a set of eligibility criteria, which are detailed in the PAM. The project uses a participatory development approach, wherein the value chain stakeholders will be engaged in the design and implementation of subprojects.

B. Economic and Financial

22. The economic and financial analysis indicates the representative subprojects are viable, with the following economic internal rates of return: Chepa seed farm, 16.0%; minor canal rehabilitation, 14.2%; and tubewell irrigation, 15.3%. The benefits measured by the improved infrastructure are a function of the increased productivity and production of certified seeds, and the increased productivity and cropping intensity. The sensitivity analysis indicated that subproject benefits remain robust (and the subproject economic internal rates of return well above 9%) when subjected to varying adverse scenarios: (i) a 10% increase in capital, (ii) a 10% increase in operating expenses, (iii) a 10% reduction in yield, (iv) a 10% reduction in output price, and (v) a 10% reduction in benefit. The cash flow analysis indicates that the subprojects generate sufficient cash flow for O&M, affirming financial sustainability. The project will provide O&M technical

assistance for all stakeholders, including training programs for lead seed growers and farmers, and government extension agents. The government will assume primary responsibility for O&M of irrigation schemes and rural roads, with an estimated annual O&M requirement of \$0.57 million (MOALI's average annual O&M budget is \$23.31 million, and this amount is unlikely to constitute an excessive fiscal burden). Subprojects will be selected by the readiness and commitment of beneficiaries to assume O&M responsibility, and all subprojects will develop viable O&M plans.

C. Governance

23. The pre-mitigation financial management risk for the project is substantial given the low capacity for accounting, budgeting, financial reporting and monitoring, and information system use; and low quality of internal and external audit reports. MOALI will ensure the project management unit (PMU) develops project-specific accounting systems and maintains financial records. Consolidated project financial statements prepared by MOALI will be audited annually by independent auditors acceptable to ADB. All procurement will be carried out in accordance with ADB's Procurement Guidelines (2015, as amended from time to time) and Guidelines on the Use of Consultants (2013, as amended from time to time). The overall procurement risk is *high* due to limited experience in procuring civil works and services under ADB projects. International and national procurement specialists will assist the PMU and train MOALI staff on procurement. The project will establish a website to disclose implementation progress, bid notifications and their results, and a grievance mechanism. ADB's Anticorruption Policy (1998, as amended from time to time) was explained to and discussed with the government and MOALI. Specific policy requirements and supplementary measures are described in the PAM.

D. Poverty, Social, and Gender

24. The project is classified *general intervention*. It will benefit at least 35,000 poor households (totaling 156,000 persons, of whom 80,000 are women) by increasing their net incomes by at least 20%.²⁶ It will promote inclusive economic growth and provide job opportunities and services. Poor households will be enabled to increase productivity through enhanced access to improved seeds, water, and mechanization services through the agricultural digital finance service. Vulnerable households in townships will participate in civil works and post-harvest operations.

25. **Gender.** The project is categorized *effective gender mainstreaming*. The project team prepared a gender action plan to promote women's views and their active participation in project activities. Gender measures include (i) consultations with women farmers to identify their priorities and needs, (ii) improved access to financial and farm extension services, and (iii) gender sensitization for stakeholders. Gender targets include (i) at least 40% of paid work in infrastructure construction and rehabilitation is for women; (ii) at least 30% of O&M jobs are for women; and (iii) 40% farmers trained in CSA, GAPs, and agribusiness skills are women. Other actions include a detailed gender analysis of the value chains to inform the development of gender-responsive agribusiness policies, and awareness raising of women on land registration processes and land use rights. Overall, the access of women farmers to agricultural inputs and capacity will be increased, leading to improved livelihoods, food and nutrition security, and climate resilience. The PMU will be responsible for gender action plan implementation, monitoring and reporting.

E. Safeguards

26. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.²⁷

²⁶ Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).

²⁷ ADB. Safeguard Categories. <https://www.adb.org/site/safeguards/safeguard-categories>

27. **Environment (category B).** The project is expected to achieve significant environmental benefits, including improved resilience and increased crop diversity. The project team conducted environmental due diligence for three representative subprojects. An initial environmental examination, including an environmental management plan, was prepared for a representative subproject (minor canal rehabilitation in Pakokku) assessed as category B. These documents will serve as a guide for preparing the environmental management and monitoring plans for similar subprojects.²⁸ The other two subprojects have been classified as category C based on ADB's rapid environmental assessment checklist, and environmental codes of conduct have been prepared. An environmental assessment and review framework has been developed to guide the environmental screening and categorization of subprojects and to identify potential impacts. It includes an environmental code of conduct for contractors and sets out the grievance redress mechanism for resolving complaints about environmental performance as well as public consultation requirements. The framework was disclosed on the ADB website in March 2018 after government's concurrence. Subprojects classified as category A will not be financed. Subprojects will be screened for climate risks and incorporate risk reduction measures. Semi-annual environmental safeguards monitoring reports will be submitted by the executing agency to ADB for disclosure on ADB and project websites.

28. **Involuntary resettlement (category B).** Subproject screening and selection criteria will identify and reject any category A subprojects that involve significant involuntary resettlement, economic displacement or involuntary land acquisition. Due diligence conducted for three representative subprojects showed that one of the subprojects requires acquisition of four square meters of land. None would result in any physical or economic displacement. Therefore, land acquisition and resettlement plans were not prepared for the representative subprojects. During project preparation, some irrigation subprojects were identified that would require acquisition of small strips of land to accommodate improvement of tertiary canals. These small strips of land may be acquired through (i) voluntary donation, (ii) negotiated settlement, or (iii) involuntary land acquisition and resettlement. A rigorous due diligence procedure to verify that voluntary donations are legitimate has been included in the resettlement framework that will be used to further screen and select subprojects during implementation.²⁹ Due diligence reports for subprojects will be updated, and due diligence will be conducted for all subprojects identified after the Board approval. If negotiated settlement is applied: (i) an external third party will be recruited to validate and document the process; (ii) the report with supporting documents will be submitted to ADB for concurrence and no objection before any civil works commence; and (iii) if the owner of the site refuses to sell, another site will be selected, and the same procedure followed. If negotiation fails and expropriation is used, a land acquisition and resettlement plan shall be prepared in accordance with the land acquisition and resettlement framework and sent to ADB for concurrence and disclosure prior to issuance of the bidding documents. The land acquisition and resettlement framework shall be used to conduct a social safeguards assessments of all subprojects, and to prepare and implement resettlement plans where needed to ensure compliance with the Myanmar laws and regulations and ADB's Safeguard Policy Statement.

29. **Indigenous peoples (category B).** There were no indigenous peoples or ethnic groups in the representative subprojects areas, hence no indigenous peoples plan was prepared. The few ethnic households residing in the areas are assimilated into the mainstream Bamar society, use the Myanmar official language, and pursue the same livelihoods as their Bamar neighbors. The government prepared an ethnic group development framework to guide (i) identification of circumstances that trigger indigenous peoples' safeguard requirements; and (ii) implementation

²⁸ Initial Environmental Examination (accessible from the list of linked documents in Appendix 2).

²⁹ Resettlement Framework (accessible from the list of linked documents).

of future subprojects to ensure inclusiveness, consultation with, and participation of ethnic groups.

30. Within 6 months of the date of project effectiveness and prior to commencement of civil works, the project will establish a safeguards grievance redress mechanism. Building on experience with past ADB projects, the government is committed to and has the capacity to manage social and environmental risks, including various safeguard frameworks and plans. Adequate resources were allocated to the screening, preparation, implementation, monitoring, and reporting of social and environmental safeguards, and associated capacity development.

F. Summary of Risk Assessment and Risk Management Plan

31. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.³⁰

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigation Measures
Failure of the government to sustain policy reforms for agribusiness promotion	Project will assist MOALI to establish an agribusiness policy cell to promote public-private partnerships, identify how to access external markets, and strengthen capacity to meet importing country safety and quality requirements.
Weak financial management regulatory systems and skills	Project will train PMU and TPIU staff on ADB accounting, auditing, and disbursement procedures. Financial staff changes will be agreed with ADB.
Weak procurement regulatory systems and skills	Project will train PMU and TPIU staff on ADB procurement guidelines. International and national procurement specialist will assist the PMU.
Reduced budget allocations for O&M leading to premature infrastructure deterioration	Preparation of a viable O&M plan will be a condition for selection of subprojects, with preference to those with O&M funding. Robust designs and good quality control will reduce O&M burden.
Catastrophic climate change events damage infrastructure or interrupt implementation	Project design incorporates climate-resilient construction and maintenance measures.

ADB = Asian Development Bank; MOALI = Ministry of Agriculture, Livestock and Irrigation; O&M = operation and maintenance; PMU = project management unit; TPIU = township project implementation unit.

IV. ASSURANCES

32. The government and MOALI have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan and grant agreements. The government and MOALI have agreed with ADB on certain covenants for the project, which are set forth in the draft loan and grant agreements.

V. RECOMMENDATION

33. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of \$40,500,000 to the Republic of the Union of Myanmar for the Climate-Friendly Agribusiness Value Chains Sector Project, from ADB's ordinary capital resources, in concessional terms, with an interest charge at the rate of 1% per year during the grace period and 1.5% per year thereafter; for a term of 32 years, including a grace period of 8 years, and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

5 September 2018

Takehiko Nakao
President

³⁰ Risk Assessment and Risk Management Plan (accessible from the list of linked documents)

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with			
Agricultural competitiveness improved (Agriculture Development Strategy; Agriculture Sector's Second Five-Year Plan; and National Export Strategy). ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p>Outcome Productive and resource-efficient agribusiness value chains in project areas developed</p>	<p>By 2027:</p> <p>a. Annual income of targeted households increased by at least 20% (2017 baseline: MK900,000)</p> <p>b. Crop yields increased by at least 25% (2017 baseline: monsoon Paw San rice seed yield: 2.6 t/ha and HYV rice seed 3.4 t/ha; chickpea: 1.6 t/ha; green gram 1.1 t/ha; and sesame 0.8 t/ha)</p> <p>c. At least 50 agribusinesses became resource efficient in terms of water savings (5%–10%) and reduction in post-harvest losses (10%) through adoption of GMPs (2017 baseline for water savings = 0%; baseline for post-harvest losses = 25%)</p> <p>d. Household Food Insecurity Experience Scale declined by 5% (2017 baseline = 17.8%)^b</p>	<p>a–b. MOALI agricultural census</p> <p>c–d. Annual PPMS and M&E reports</p>	<p>Failure of the government to sustain policy reforms for agribusiness promotion</p>
<p>Outputs</p> <p>1. Critical agribusiness value chain infrastructure improved and made climate-resilient</p> <p>2. Climate-smart agriculture and agribusiness promoted</p>	<p>By 2025:</p> <p>1a. 10 DOA seed farms produced at least 3,000 t of HYV rice seed, 130 t of chickpea, 180 t of green gram, and 70 t of sesame annually (2017 baseline: 378 t HYV rice, 25 t of chickpea, 36 t of green gram, and 20 t of sesame) to benefit at least 156,000 persons (80,000 female members) in 35,000 households (2017 baseline: 0)</p> <p>1b. About 13,000 ha of additional area brought under climate-smart water management by rehabilitating 130 km of tertiary canals (6,000 ha), 15 community reservoirs (1,000 ha) and installing 8,000 shallow tube wells (6,000 ha) to benefit at least 156,000 persons (80,000 female members) in 35,000 households (2017 baseline: 0)</p> <p>1c. At least 300 km of farm roads rehabilitated to climate-resilient condition (2017 baseline: 0)</p> <p>1d. Crop product quality and safety testing infrastructure in pesticide testing laboratory, FSTLAB and CTQM upgraded leading to ISO 17025 certification to test at least 2,500 samples per year (2017 baseline: 1,100)</p> <p>2a. At least 4 (1 rice, 1 chickpea, and 2 sesame) climate-resilient varieties released (2017 baseline: 0)</p> <p>2b. Skills and knowledge of at least 300 lead seed growers in certified seed production, and 50,000 farmers (40% women) in CSA, GAPs and agribusiness improved (2017 baseline: 0)</p>	<p>1a. DOA Annual reports</p> <p>1a–d. PPMS reports</p> <p>1d. MOALI and MOC annual reports</p> <p>2a–f. PPMS reports</p>	<p>Reduced budget allocations for O&M leading to premature infrastructure deterioration</p> <p>Catastrophic climate events damage infrastructure or interrupt implementation</p>

<p>3. Enabling environment for climate-friendly agribusiness enhanced</p>	<p>2c. At least 35,000 farmers (40% women) adopted GAP standards for bean, pulse and oilseed production (2017 baseline = 0)</p> <p>2d. At least 50,000 farmers (30% women) adopt water use efficient technologies and develop capacity to operate and maintain small-scale irrigation schemes (2017 baseline: 0)</p> <p>2e. At least 50 agribusiness dealers and service providers, and 500 farmers (30% women) trained in farm machinery operation and maintenance (2017 baseline: 0)</p> <p>2f. At least 35,000 households (156,000 persons, 80,000 females) benefitted by agricultural digital finance to access improved agricultural inputs, farm mechanization services, and off-farm livelihood options (2017 baseline: 0)</p> <p>3a. Agribusiness policy unit established in DOP</p> <p>3b. At least three climate-friendly and gender-responsive agribusiness policies,^c including a PPP framework focusing on agribusinesses, formulated (2017 baseline: 0)</p> <p>3c. At least 100 rice millers, and 50 pulse, bean or sesame processors and exporters, including 30% led or owned by women,^d adopted GMP and HACCP standards (2017 baseline: 0)</p> <p>3d. Green finance skills and knowledge of at least 50 staff, including 30% women, from participating financial institutions improved (2017 baseline: 0)</p> <p>3e. Weather, market, and credit information systems upgraded to provide timely information to at least 50,000 community-level supply chain stakeholders, including 25,000 women (2017 baseline: Not available)</p> <p>3f. Land administration systems and services skills and knowledge of at least 50 staff, including 30% women, improved^e (2017 baseline: 0)</p>	<p>2f. Participating financial institution service provider records</p> <p>3a–f. PPMS reports</p>	
Key Activities with Milestones			
<p>1. Critical agribusiness value chain infrastructure improved and made climate-resilient</p> <p>1.1 Upgrade infrastructure in 10 DOA seed farms for production of improved and climate-resilient seed (Q3 2019–Q4 2023).</p> <p>1.2 Rehabilitate irrigation and water management infrastructure (tertiary canals, community reservoirs, and shallow tubewells) to climate-resilient condition (Q2 2019–Q2 2025).</p> <p>1.3 Improve connectivity and farm mechanization through climate-resilient farm road networks (Q1 2020–Q3 2022).</p> <p>1.4 Strengthen infrastructure for agricultural quality and safety testing (Q3 2019–Q4 2022).</p> <p>2. Climate-smart agriculture and agribusiness promoted</p> <p>2.1 Deploy climate-resilient varieties (Q3 2019–Q2 2025) (GCD).</p> <p>2.2 Conduct training for farmers, SMEs, and private sector on CSA (Q3 2019–Q1 2025) (GCD, GE).</p>			

2.3 Implement agricultural digital finance service for agricultural inputs, farm mechanization services and off-farm livelihood opportunities (Q1 2020–Q4 2024).

3. Enabling environment for climate-friendly agribusiness enhanced

3.1 Formulate climate-friendly agribusiness policies and standards, including PPPs, contract farming, GAP and organic certification, and gender aspects (Q2 2019–Q4 2023) (GCD).

3.2 Improve skills of financial institutions on green finance, including integration of climate risk screening in lending activities (Q2 2020–Q4 2024) (GCD, GE).

3.3 Promote multimedia-based weather, market, and credit information networks in target townships (Q1 2020–Q4 2023) (GCD, GE).

3.4 Improve the delivery of land administration services through capacity building of regional and township administrations (Q1 2020–Q2 2025) (GCD,GE).

Project Management Activities

Mobilize project implementation consultants and procure equipment, furniture, and vehicles (Q1–Q2 2019).

Establish PPMS, and conduct needs assessment for specific project management skills (Q1–Q2 2019).

Customize learning modules to fit participant needs (Q3 2019) (GCD, GE).

Deliver and evaluate training courses for 200 staff (35% female) from various levels (national, provincial, and district) in project management, procurement, financial management, gender, social and environmental safeguards (Q2 2020–Q4 2024) (GCD, GE).

Inputs

ADB: \$40,500,000 (loan)

GAFSP: \$22,000,000 (grant)

Government: \$1,430,000

Beneficiaries: \$990,000

Assumptions for Partner Financing

GAFSP: \$5,000,000 (parallel financing as capacity building technical assistance and administered by FAO)

ADB = Asian Development Bank; CSA = climate-smart agriculture; CTQM = commodity testing and quality management; DOA = Department of Agriculture; DOP = Department of Planning; FAO = Food and Agriculture Organization of the United Nations; FSTLAB = food safety testing laboratory; GAFSP = Global Agriculture and Food Security Program; GAP = good agricultural practice; GCD = governance and capacity development; GE = gender equity; GMP = good manufacturing practice; ha = hectare; HACCP = hazard analysis critical control points; HYV = high-yielding variety; km = kilometer; M&E = monitoring and evaluation; MK = Myanmar kyat; MOALI = Ministry of Agriculture, Livestock and Irrigation; MOC = Ministry of Commerce; NA = not applicable; O&M = operation and maintenance; PPMS = project performance monitoring system; PPP = public–private partnership; SMEs = small and medium-sized enterprises; Q = quarter, t = ton.

^a Government of Myanmar. Ministry of Agriculture, Livestock and Irrigation. 2018. *Myanmar Agriculture Development Strategy and Investment Plan (2018–2023)*. Nay Pyi Taw; Government of Myanmar. 2016. *Agriculture Sector Second Five-Year Plan (2016/2017–2020/2021)*. Nay Pyi Taw; and Government of Myanmar. 2014. *National Export Strategy (2015–2019)*. Nay Pyi Taw.

^b Developed by Food and Agriculture Organization of the United Nations, the Food Insecurity Experience Scale is a measure of access to food at the individual or household level based on food insecurity experienced as uncertainty and/or anxiety, and changes in food quality or quantity.

^c Women are more vulnerable to the impacts of climate change, and policies developed for public–private–community partnerships or contract farming arrangements for promoting agribusinesses under output 3 will be responsive to the needs, constraints and vulnerabilities of women. The detailed gender analysis of value chains proposed in the gender action plan is expected to inform this process.

^d Enterprises led or owned by women comprise those with at least one of the following: (i) at least 50% of senior managers are women, (ii) at least 50% of enterprise ownership is controlled by women, and (iii) at least 50% of employees are women.

^e Land administration systems and services include (i) updating cadastral map coverage, (ii) re-establishing land records, (iii) registering land transactions, (iv) confirming land tenure, and (v) issuing land use certificates or titles.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=48409-003-3>

1. Loan Agreement: Asian Development Bank
2. Grant Agreement: Global Agriculture and Food Security Program
3. Sector Assessment (Summary): Agriculture, Natural Resources, and Rural Development
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Climate Change Assessment
8. Economic and Financial Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Gender Action Plan
12. Initial Environmental Examination: Irrigation Canal Rehabilitation Subproject
13. Environmental Assessment and Review Framework
14. Indigenous Peoples Planning Framework: Ethnic Group Development Framework
15. Risk Assessment and Risk Management Plan
16. Land Acquisition and Resettlement Framework

Supplementary Documents

17. Feasibility Study: Chepa Seed Farm Subproject
18. Feasibility Study: Irrigation Canal Rehabilitation Subproject
19. Feasibility Study: Tubewell Irrigation Subproject
20. Detailed Poverty and Social Impact Analysis
21. Detailed Gender Analysis
22. Detailed Economic and Financial Analysis
23. Financial Management Assessment
24. Procurement Capacity Assessment Report
25. Stakeholder Consultation and Participation Plan
26. Stakeholder Communication Strategy
27. Institutional Capacity and Training Needs Report